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09/498,375	02/04/2000	Kazunori Ito	0557-4909-3	8731

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EXAMINER

MCDONALD, RODNEY GLENN

ART UNIT PAPER NUMBER

1753

DATE MAILED: 07/28/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/498,375

Applicant(s)

ITO ET AL.

Examiner

Rodney G. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30, 33-42 and 73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18, 23-30 and 33-42 is/are allowed.
- 6) ☒ Claim(s) 19-22 is/are rejected.
- 7) ☒ Claim(s) 73 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Japan on February, July, September, October, November of 1999 and January of 2000. It is noted, however, that applicant has not filed a certified copy of the Japanese applications as required by 35 U.S.C. 119(b).

### ***Information Disclosure Statement***

The information disclosure statement is missing from the file. It is requested that the Applicant provide a copy for consideration in the next action.

### ***Claim Objections***

Claim 73 is objected to because of the following informalities:

Claims 73, line 10, before "substrate holder" the word "the" is missing.

Appropriate correction is required.

### ***Continued Prosecution Application***

The request filed on May 14, 2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/498,375 is acceptable and a CPA has been established. An action on the CPA follows.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pat. 5,857,667) in view of Shuzo (Japan 06-143073)

Lee teach a vacuum chuck for holding parts regardless of their size. (Column 4 lines 40-47) **(Compare to holding optical disks)**

In Fig. 7a and 7b the vacuum chuck has compartments formed by arranging concentric circular walls 71, 72 and 73 each having a different diameter. **(Compare to having a groove section)** Thus, the outer compartments will be ring-shaped, while the center compartment will have a circular shape. Each of these compartments includes respective vacuum **holes 77, 78 and 79 through vacuum pipes 74, 75 and 76.**

(Column 4 lines 20-32)

Accordingly the vacuum chuck can fix various sized parts according to the arrangement of the compartments in various sizes. (Column 4 lines 40-44) **(i.e. Compare to holding a substrate that is contacted at one portion of the substrate holder and not contacted at another portion of the substrate hold r)**

Figures 5 and 6 show a rectangular vacuum chuck holding substrates of various sizes. (see Figures 5 and 6) ***(i.e. Compare to holding a substrate that is contacted at one portion of the substrate holder and not contacted at another portion of the substrate holder)***

The holes which pull the vacuum from the compartments are connected to one another through piping such that sections where the substrate is not contacted by the substrate holder (i.e. See Figs. 5 and 6) are connected to sections which hold the substrate. Connection is shown in Fig. 4. (See Figure 4)

The difference between Lee and the present claims is that the utilizing a porous member in the grooves is not discussed.

Shuzo teach a workpiece holder (i.e. optical disk holder). The substrate holder utilizes a porous ceramic layer 3 formed over the chuck surface 6 of a plate 1, a sealing section 5 is provided with the ceramic layer 3 impregnated with resin in an epoxy series at a specified position in order to cut off intake air, and intake air ports 8a through 8c which connect adsorbing sections 4a through 4c at a gap between the sealing sections to an external vacuum sources, are formed in the inside of the base section 2 of the plate 1. (See Abstract)

The motivation for utilizing a porous member in a groove (i.e. between the circular solid epoxy resins) is that it allows for precisely holding the workpiece flat. (See machine translation paragraph 005)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lee by utilizing a porous member in a

groove as taught by Shuzo because it allows for maintaining holding of the workpiece flat.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Shuzo as applied to claim 19 above, and further in view of Kataoka et al. (Japan 55-143036).

The differences not yet discussed is that the use of thermally conductive material is not discussed.

Kataoka et al. Teach a gas-permeable metal disc 18, whose surface 18 is made rough and which is made of a porous sintered metal or the like, is fitted in the recess of the holding part 11. A wafer 20 to be sucked is placed on the metal disc 18 and the sealing material 17. (See Abstract)

The motivation for utilizing a thermally conductive metal is that it allows for preventing dusts from adhering to the wafer. (See Abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a thermally conductive metal as taught by Kataoka et al. because it allows for preventing dusts from adhering to the wafer.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Shuzo as applied to claim 19 above, and further in view of Hiyamizu et al. (U.S. Pat. 4,906,011).

The differences not yet discussed is the use of a polymeric material such as an elastic as the porous member.

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Hiyamizu et al. teach utilizing porous sintered particles of a thermoplastic resin, e.g, a fluorocarbon resin for a vacuum chuck. (See Abstract)

The chuck can hold glass wafers. (Column 4 lines 14-22)

The motivation for utilizing a polymeric material for the porous member is that it allows holding the workpiece with reliability without damaging the workpiece. (See Abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a polymeric material as the porous member as taught by Hiyamizu et al. because it allows for holding the workpiece with reliability without damaging the workpiece.

***Allowable Subject Matter***

Claims 1-18, 23-30 and 33-42 are allowed. Claim 73 would be allowable if amended to correct the objection given above.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-14 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter with the removal claw having an inclined section configured to go into a section between a rear surface of the substrate and a top surface of the substrate holder to mechanically peel off the adsorbed substrate from the substrate holder.

Claims 15-18 and 73 are indicated as being allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a

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groove section which extends from a portion where said substrate holder contacts said substrate when said substrate holder is holding said substrate to a portion where said substrate holder does not contact said substrate when said substrate holder is holding said substrate; and a porous member which can allow air to pass through provided within said groove section in which the surface of the porous member is at a same level as the surface of the substrate holder.

Claims 23-29 are allowable over the prior art of record because the prior art of record does not teach an optical disk substrate film-formation apparatus comprising:

a substrate holder which holds thereon an optical disk substrate as an object for film formation; an inner mask which masks a specified area on an inner side of said optical disk; and an outer mask which masks a specified area on an outer side of said optical disk; wherein said inner mask and said outer mask being used for forming a thin-film on a surface of said optical disk substrate, said substrate holder having, a substrate holding section which contacts said optical disk substrate on the rear surface of said optical disk substrate but in a portion where the thin-film has been formed on the front surface, wherein said substrate holding section contact said optical disk substrate in the portion extending between a line which is 2 to 10 mm on the outer side of an edge of said inner mask and a line which is 0.5 to 5 mm on the inner side of an inner edge of said outer mask.

Claims 30 and 33-42 are allowable over the prior art of record because the prior art of record does not teach an optical disk substrate film-formation apparatus used for sputter film formation in which a laminated film is formed by combining any one or two



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or more of a reflection layer, a recording layer, a protection layer, or a dielectric body layer on a disk substrate in an optical disk manufacture step comprising:

a gas supply section for introduction of gas in the substrate holder side in a limited portion between a substrate setting surface of the substrate holder and a film-formed substrate, and at least a closed space section in the area formed in the substrate holder side because of contact between the substrate and substrate holder, wherein gas is supplied from the gas supply section during a period from a time point when sputter film formation is finished until a time point when a substrate is carried out, and wherein the gas supplied from said gas supply section is also used as vent-gas for an intermediate chamber between atmosphere for inserting a substrate into or carrying out from the optical disk substrate film-formation apparatus and vacuum.

### ***Response to Arguments***

Applicant's arguments of 5-14-03 have been considered. The only remaining rejections apply to claims 19-22. The rejections have been made only some newly cited prior art. The Examiner awaits Applicant's response to the new rejections made based on the newly cited prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 703-308-3807. The examiner can normally be reached on M- Th with Every other Friday off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 703-308-3322. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Rodney G. McDonald  
Primary Examiner  
Art Unit 1753

RM  
July 24, 2003